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UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

ENTROPIC COMMUNICATIONS, LLC,

Plaintiff,

v.

DISH NETWORK CORPORATION, *et al.*,

Defendants.

Case No.: 2:23-cv-01043-JWH-KES

PLAINTIFF ENTROPIC COMMUNICATIONS' OPPOSITION TO DEFENDANTS' RULE 12(b)(6) MOTION TO DISMISS UNDER 35 U.S.C. § 101

Hearing Date: June 9, 2023
Hearing Time: 9:00 a.m.
Courtroom: 9D
Judge: Hon. J. W. Holcomb

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I. INTRODUCTION

The defendants (collectively "DISH") have moved for dismissal of the claims of infringement of two patents—U.S. Patent Nos. 10,257,566 ("the '566 Patent") and 8,228,910 ("the '910 Patent")—based upon purported patent ineligibility under 35 U.S.C. § 101. Far from representing ineligible subject matter, these patents represent concrete technological solutions to a very significant problem, as laid out in the introductory paragraphs of the Complaint. ECF Dkt. No. 1 ¶ 1-4.

Around the turn of the millennium, cable and satellite providers were eager to deploy new and improved services, but these services required a high-speed data network inside buildings to deliver those services to various rooms. *Id.* ¶ 1. Given the existing technology, this meant installing new cabling inside each premises to carry the network, a costly and time-consuming effort. *Id.* A group of inventors set out to repurpose the already-existing coaxial cables common in buildings to carry a new network protocol, which would need to be invented from scratch to work with the legacy wiring that was never intended to be used for a local area network. *Id.* ¶ 2. The Patents-in-suit, including the two that are the subject of the present motion, represent the technical solutions enabling this new networking technology, now commonly called MoCA. *Id.* ¶ 3. These two Patents represent particular solutions to particular problems that arise in the context of MoCA networks. They claim precisely the type of technical solutions the Patent Act is designed to promote and protect.

Legally, DISH's motion must be denied given the nature of the Patents, and because issues of claim construction, and of fact, block any dismissal under Fed. R. Civ. P. 12(b)(6).

II. ARGUMENT

A. The Law of Patent Eligibility

While DISH accurately describes the *Alice* steps one and two analyses for Section 101 patent eligibility, it omits certain key legal precepts regarding patent

eligibility. *See* ECF Dkt. No. 50-1 at 11-13. First, DISH has the burden of proof in challenging claims as patent ineligible. *Illumina, Inc. v. Ariosa Diagnostics, Inc.*, 967 F.3d 1319, 1328 (Fed. Cir. 2020). In other words, it is not up to Entropic to prove that a claim is patentable.

Secondly, the Federal Circuit has cautioned against oversimplifying a patent's claims when conducting a Section 101 analysis. *See McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016) ("We have previously cautioned that courts must be careful to avoid oversimplifying the claims by looking at them generally and failing to account for the specific requirements of the claims" (internal quotation marks omitted)). In that regard, a court may consult a patent's specification to determine whether the claims challenged under Section 101 include an inventive concept that suffices to defeat such a challenge. *See Weisner v. Google LLC*, 51 F.4th 1073, 1087 (Fed. Cir. 2022).

Thirdly, it is "ordinarily [ ] desirable—and often necessary—to resolve claim construction disputes prior to a § 101 analysis, for the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter." *Bancorp Services, L.L.C. v. Sun Life Assur. Co. of Canada (U.S.)*, 687 F.3d 1266, 1273-74 (Fed. Cir. 2012).

Finally, although patent eligibility is a matter of law, it "may contain disputes over underlying facts." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018). "Whether the claim elements or the claimed combination are well-understood, routine, [or] conventional is a question of fact." *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1128 (Fed. Cir. 2018). As highlighted herein, each of these legal precepts weighs against granting the instant motion.

B. The MoCA Inventions

Televisions signals received via an external television cable enter a building at a point-of-entry, and are sent to television receivers via a broadband cable network that may include a plurality of cables and cable splitters. '566 Patent, col. 1, lines 36-

46. Traditionally, coaxial cable within a building was deployed as a "tree" topology, which simply splits the signal coming from the external cable feed for distribution of video content to the various locations on the premises in the "downlink" direction only. ECF Dkt. No. 1, ¶ 25.

By the year 2000, millions of dwellings and businesses across the United States already had existing coaxial cable deployed throughout the premises. *Id.* However, cable providers began facing the problem of distributing multimedia data between the various nodes interconnected by coaxial cable. *Id.*, ¶ 24. Such distribution required a full digital network, capable of communication between any node in the network, in any direction—a functionality that coaxial cable networks lacked. *Id.*, ¶ 25.

However, as the '566 Patent evidences, Entropic Inc. realized that "[t]he home coaxial cable is a natural medium for connecting multimedia devices since it has enormous amount of available bandwidth required for the high data rates which are needed for such applications and also, all the multimedia devices and appliances are most likely to be already connected to the coaxial cable." '566 Patent, col. 3, lines 24-30. At the same time, however, Entropic Inc. recognized that "most broadband cable networks . . . presently utilized within most existing buildings are not configured to allow for networking between CPEs[1]." *Id.*, col. 3, lines 30-33.

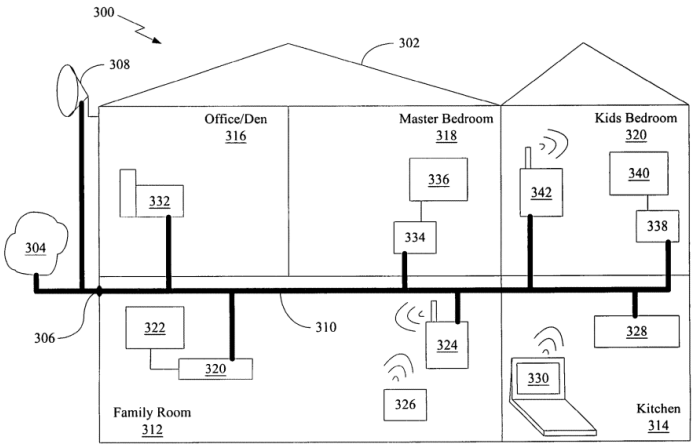
Thus, Entropic Inc., in tackling the problem, managed what was considered unlikely or impossible—to make a high-speed point-to-point digital communication network using existing coax installations. ECF Dkt. No. 1, ¶ 26. Its work in this regard led to the founding of MoCA. *Id.*, ¶ 27. The technology defined in the MoCA standards enables a robust point-to-point high-quality network, which is significantly different from the legacy coaxial network. *Id.*, ¶¶ 27, 29. Entropic Inc.'s work in developing the MoCA standard also resulted in numerous patents, including the

[1] "CPE" is an acronym for "customer premise equipment." *See* '566 Patent, col. 3, lines 48-50.

patents in suit in this matter. *Id.*, ¶¶ 26, 37. The two patents that are the subject of the instant motion are part of Entropic Inc.'s tapestry of patents resulting from its work developing the MoCA standard. *Id.*, ¶¶ 31, 39.

a. The '566 Patent

The problem faced by the inventors of the '566 Patent was the mixture of coaxial cables of varying types and poor quality within a network, along with RF interference, and having multiple splitters of varying quality and frequency ranges. '566 Patent, col. 1, lines 53-61. A typical coaxial cable network is depicted as follows:



'566 Patent, Figure 3.

The '566 Patent describes the network depicted in Figure 3 as "[a] BCN network 310 within the home 302" that "connects with the satellite dish 308 and cable/terrestrial network 304 at POE 306." '566 Patent, col. 5, lines 56-58. That network includes devices such as a home media server 320, a video monitor 322, wireless access point 324, WebPad 326, network audio appliance 328, and a laptop personal computer 330. *Id.*, col. 6, lines 1-16. As noted above, several data packets, including probe packets, control and optimize the operation of the BCN network depicted in Figure 3. '566 Patent, col. 8, lines 15-18, 37-57.

The '566 Patent is directed to solving for the variable quality in coaxial cable networks in the context of new node admission to a coaxial cable network by optimizing and periodically adapting the channels between node pairs:

> A Network Controller (NC) BCN modem is established by the activation of the first BCN modem or when there are multiple devices through a selection process. The other BCN modems in the network then communicate with the NC to be admitted to the network and when attempting to access the network and request transmission opportunities to any other node in the network. Each BCN modem communicates with the other BCN modems in the network and establishes the best modulation and other transmission parameters that is optimized and ***periodically adapted*** to the channel between each pair of BCN modems.

Id., col. 4, lines 23-39 (emphasis added).

The specification explains the purpose of the claimed probe in channel adaptation—"[t]he probe may be used for calibrating the I/Q amplitude and phase Quadrature balance of the up and down conversion process," which, in turn, "can accommodate a less stringent I/Q hardware requirements by using probe packets for adaptive calibrations." '566 Patent, col. 8, lines 46-52.

Claim 1 of the '566 Patent reads:

> A communication circuit comprising:
>
> a transceiver operable to communicate in a coaxial cable network (CCN);
>
> a controller that is operable to, at least:
>
> transmit first information on the CCN, the first information comprising information indicating when admission messages for requesting admission to the CCN may be transmitted on the CCN;

receive an admission request message from a new node for admission to the CCN;

if the received admission request message is correctly received and the new node is authorized to join the CCN, then perform an admission procedure with the new node;

probe a communication link of the CCN connecting the communication circuit to the new node; and

adapt transmission parameters for the communication link based, at least in part, on the probe.

Id., col. 45-63.

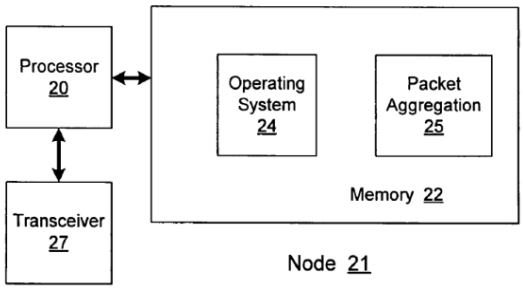
In light of the afore-quoted teachings from the '566 Patent regarding the problem faced by the inventors, and the patented solution thereto, at least the term "adapt transmission parameters" will need to be defined to characterize that term accurately as to its contribution to that solution. Further, as noted above, the Complaint and the '566 Patent make clear that converting coaxial cable into a point-to-point network required the novel use of adaptive transmission parameters to optimize coaxial cable network communications. The novel use of such features in the context of coaxial cable networks is patentable under section 101. ECF Dkt. No. 1, ¶ 246.

b. The '910 Patent

According to the specification of the '910 Patent, the problem confronted in the prior art is that "overhead information is associated with each packet transmitted through the network," and such information, "including identifiers, source and destination addresses, error control fields, etc., is added to the user data ***and reduces***

the availability of network bandwidth for user data." '910 Patent, col. 1, lines 32-37 (emphasis added).

For a solution to this problem, the specification teaches the use of a packet data unit ("PDU") with a "header," a "payload," and "frame check sequence (FCS)" or "cyclic redundancy check (CRC)" bits. *Id.*, col. 3, lines 42-52. The PDUs are capable, on the one hand, of conversion to Multimedia over Coax Alliance ("MoCA") packets for transmission over coaxial cable. *Id.*, col. 3, lines 60-61. However, Ethernet frames can be packet aggregated when it is determined that such frames are to be transmitted to the same destination node, or a node having the same aggregation identification. *Id.*, col. 4, lines 6-12. The claimed device that performs the packet aggregation is the packet aggregation module, which is located in network node memory, as depicted in Figure 2 of the '910 Patent:



'910 Patent, Fig. 2 & col. 4, lines 7-11 ("packet aggregation module 25 of node 21 aggregates Ethernet frames 32 and 36 into a single aggregated frame 50 when it is determined that frames 32 and 36 are to be transmitted to the same destination node or nodes").

Figure 4 illustrates the structure of the resulting packet aggregating PDU 1 and 2 (aggregate packet), which leads to a decrease in network overhead and solves for the reduced bandwidth associated with the transmission of single packets:

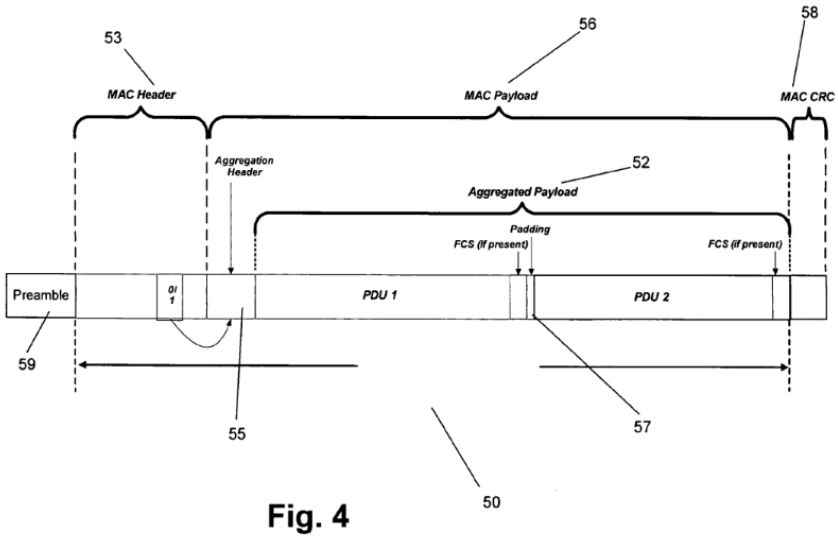


Fig. 4

Id., col. 4, lines 12-13 & col. 6, lines 25-27.

In the above Figure, "[a]ggregated frame 50 includes a MAC payload 56, which includes an aggregated payload 52 that is formed from the data from Ethernet frames 32 and 36, and padding 57." *Id.*, col. 4, lines 13-16. MAC payload 56 further includes an aggregation header 55." *Id.*, col. 4, lines 16-17. "The transmitted packet overhead of the network can then be reduced by eliminating interframe gaps, preamble information, and extra headers" in the aggregate packets. *Id.*, col. 2, lines 1-3.

Claim 3 of the '910 Patent (charted in the complaint) reads as follows:

A system for transmitting digital data over a network comprising:

a transceiver adapted to receive a plurality of packet data units; and

a packet aggregation module for identifying at least two of the plurality of packet data units that have a same destination node and for forming an aggregate packet from the at least two of the plurality of packet data units;

wherein the transceiver is adapted to transmit the aggregate packet to at least one destination node; and

wherein the packet aggregation module identifies the same destination node by identifying a same aggregation identifier.

'910 Patent, col. 6, lines 35-60 (emphasis added).

As Entropic notes, "[t]he '910 Patent is the Packet Aggregation Patent, and is generally directed to, inter alia, transmitting data over a network, where the transmitting device aggregates packets that are directed to a common destination node," which "reduces the transmitted packet overhead of the network by eliminating interframe gaps, preamble information, and extra headers." ECF Dkt. No. 1, ¶ 381. Thus, the claims of the '910 Patent are "directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101." *Id.*, ¶ 382.

Here, the obvious claim construction issues, in light of the identified problem and claimed solution, include "packet aggregation module" and "aggregate packet." And, given such a problem and solution, *i.e.*, reducing network overhead by packet aggregation, as described above, there is at least a fact question as to whether such module and packet are novel as used in the context of the claimed invention.

C. The Patents Claim Patent-Eligible Subject Matter

DISH has moved for dismissal under Fed. R. Civ. P. 12(b)(6), meaning that it is confined to the pleadings in this matter. *Hal Roach Studios, Inc. v. Richard Feiner & Co., Inc.*, 896 F.2d 1542, 1555 n.19 (9th Cir. 1989) ("Generally, a district court may not consider any material beyond the pleadings in ruling on a Rule 12(b)(6) motion").

a. DISH Has Failed To Prove The Claims Of The '566 Patent Are Unpatentable

(1) *Alice* Step One

As discussed above, there is a need to construe at least the term "adapt transmission parameters," which precludes a ruling on Section 101 patentability at this point. *Bancorp Servs.*, 687 F.3d at 1273-74. DISH has offered no explanation to the contrary. Beyond that, however, in purporting to summarize the claims of the '566 Patent, DISH simply ignores the claimed requirements that the node admission be to a coaxial cable network, and that there be a communication link probe that results in adapting transmission parameters - a feature that allows for the optimization of link communications in such a network. *See* ECF Dkt. No. 50-1 at 13-14. As such, DISH runs afoul of the admonition against oversimplifying a claim to bolster a Section 101 challenge. *McRO*, 837 F.3d at 1313.

Based on this unduly simplified claim summary, DISH attempts to analogize what are, in fact inapposite decisions from the Federal Circuit. For example, in *Prism Technologies LLC v. T-Mobile USA, Inc*., the court evaluated the patentability of claims directed to: "(1) receiving identity data from a device with a request for access to resources; (2) confirming the authenticity of the identity data associated with that device; (3) determining whether the device identified is authorized to access the resources requested; and (4) if authorized, permitting access to the requested resources." *Prism Technologies LLC v. T-Mobile USA, Inc.*, 696 F. App'x 1014, 1017 (Fed. Cir. 2017). In fact, there is nothing in the *Prism* claims corresponding to adaptive transmission parameters resulting from communication link probing, which, as described above, optimizes network communications in a coaxial cable network.

When the '566 Patent claims are accurately summarized, they are actually analogous to the claims at issue in *Cosmokey Solutions GmbH & Co. KG v. Duo Security LLC*, which distinguished *Prism*. There, the claims were directed to "activation of the authentication function, communication of the activation within a

predetermined time, and automatic deactivation of the authentication function, such that the invention provides enhanced security and low complexity with minimal user input." *Cosmokey Sols. GmbH & Co. KG v. Duo Security LLC*, 15 F.4th 1091, 1097 (Fed. Cir. 2021).

The court in *Cosmokey* found the claims patentable under section 101, as they recited "a specific improvement to authentication that increases security, prevents unauthorized access by a third party, is easily implemented, and can advantageously be carried out with mobile devices of low complexity," *i.e.*, they did not merely recite "generic computer functionality to perform the abstract concept of authentication." *Id.* at 1098. Similarly, the claims at issue describe an improved method of node admission to a coaxial cable network using adaptive transmission parameters based upon the results of a communication link probe to optimize communications on such network. *See* '566 Patent, col. 25, lines 46-63.

DISH also describes the holding in *Strikeforce Technologies, Inc. v. SecureAuth Corp.*, No. LA CV17-04314, 2017 WL 8808122 (C.D. Cal. Dec. 1, 2017), as invalidating "claims reciting authentication of a request for sensitive information via a separate 'authentication channel'" because they were "directed to the abstract idea of permitting restricted access to resources." ECF Dkt. No. 50-1 at 14. In fact, the decision in *StrikeForce* was more nuanced. In *StrikeForce*, the court noted that, while an "ordered combination of conventional elements may be inventive," the "ordered combination of the Asserted Claims is logical and conventional." *Strikeforce*, 2017 WL 8808122 at *7 (separation of the access and authentication channels, interception of the login identification, and initial verification of the user's login identification).

DISH has presented ***no*** evidence that the method claims of the '566 Patent are logical and conventional, despite having the burden on this issue, which is fatal to

the instant motion.[2] *See Illumina*, 967 F.3d at 1328 (Fed. Cir. 2020) ("Roche, the party challenging the validity of the patents and thus bearing the burden of proof on its § 101 challenge, has presented no evidence that thresholds of 500 base pairs and 300 base pairs were conventional for separating different types of cell-free DNA fragments").

Similarly, in *Smart Authentication IP, LLC v. Electronic Arts Inc.*, the court addressed a method claim for "authenticating a user in more than one way over multiple electronic mediums," which did "not provide any 'unconventional, patentable combination.'" ECF Dkt. No. 50-1 at 14, quoting *Smart Authentication IP, LLC v. Electronic Arts Inc.*, 402 F. Supp. 3d 842, 852-53 (N.D. Cal. 2019). The court in *Smart Authentication* distinguished the claims at issue in *Cellspin Soft Inc. v. Fitbit, Inc.*, where the claims were directed to an invention that "contemplated a less bulky and less expensive apparatus in terms of hardware – making it cheaper to build – and was also less expensive for the user," and found to be patent eligible. *Smart Authentication*, 402 F. Supp. 3d at 854, citing *Cellspin Soft Inc. v. Fitbit, Inc.*, 927 F.3d 1306 (Fed. Cir. 2019). As noted above, the invention of the '566 Patent adapts transmission parameters resulting from communication link probing, which optimizes communications over a coaxial cable network, and, as such, are analogous to the patentable improvements in *Cellspin.*

On that note, *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, cited by DISH, did indeed reiterate the general proposition that "merely limiting the field of use of the abstract idea to a particular existing technological environment does not render the claims any less abstract." *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1259 (Fed. Cir. 2016). However, rather than simply availing itself of an existing technological environment, in this case, a uni-directional coaxial cable, the claimed invention contributes to the conversion of such an environment into a point-

[2]DISH argues that certain components claimed in the '566 Patent, namely, the "communication circuit," "transceiver," "controller," and "node" are conventional. *See* ECF Dkt. No. 50-1 at 7. *See also id.* at 17.

to-point network by optimizing communications over such network through adaptive transmission parameters. *See* '566 Patent, col. 3, lines 46-49.

Finally, DISH argues that, because "the claims fail to specify how the link is 'probed,' what 'transmission parameters' are 'adapted,' or how that adaptation is done," such claims are too general to be patentable. ECF Dkt. No. 50-1 at 15. DISH presents no evidence that additional detail regarding communication link probe parameters is required to advance the claims beyond an unpatentable abstraction.

On a related note, the claims at issue in *IOENGINE, LLC v. PayPal Holdings, Inc.* required program code "configured to provide a communications node on the portable device to coordinate with the communications node on the terminal and establish a communications link between the portable device and the terminal, and facilitate communications to the terminal and to a communications network node through the terminal communication interface." *IOENGINE, LLC v. PayPal Holdings, Inc.*, 607 F. Supp.3d 464, 477 (D. Del. 2022). The claims did not specify how the coordination and facilitation are to occur. *See id.* Those claims were nonetheless found patentable because they were directed to "a novel computer architecture that is designed to provide benefits because of the claimed structures of the computing elements." *Id.* at 486. Similarly, as explained above, the claimed adaptive transmission parameters contribute to a novel point-to-point architecture for a coaxial cable network.

(2) *Alice* Step Two

Assuming the Court reaches *Alice* step two, as noted above, there is at least an issue of fact as to whether transmission parameter probes and transmission parameters used to optimize coaxial cable network communications via link optimization are novel (unconventional). *Aatrix Software*, 882 F.3d at 1128. Such a fact issue precludes adjudicating Section 101 patentability at this point. *Berkheimer*, 881 F.3d at 1368.

Further, the case law cited by DISH is unhelpful. To begin with, in *SmartFlash LLC v. Apple Inc.*, "the Federal Circuit found claims for restricting access to data pending payment validation or other 'access/use rules' to be directed to the abstract idea of 'conditioning and controlling access to data based on payment.'" ECF Dkt. No. 50-1 at 14, citing *SmartFlash LLC v. Apple Inc.*, 680 F. App'x 977, 982-83 (Fed. Cir. 2017). Again, *SmartFlash* is applicable only if one accepts DISH's unduly simplified characterization of the claims at issue in this case, as there is nothing in the *SmartFlash* claims corresponding to communication link probing. However, in light of the actual invention thereof, those claims are akin to those at issue in *IOENGINE, supra*, which distinguished *SmartFlash.* Those claims were directed to "a novel computer architecture that is designed to provide benefits because of the claimed structures of the computing elements." *IOENGINE,* 607 F. Supp.3d at 486.

The court in *IOENGINE* also noted that the subject claims, while "broad in scope," contained sufficient limitations to ensure that such claims were not directed to "an end result rather than to the process or machinery employed to achieve that result." *Id.* at 487. As in *IOENGINE,* the claims here do not merely describe the result of network admission, but describe a probe of communication links used to set transmission parameters for such admission.

DISH cites *Internet Patents Corp. v. Active Network, Inc.* for the proposition that "transmitting and receiving messages between nodes in a network is simply 'citing the ineligible concept in a particular technological environment.'" ECF Dkt. No. 50-1 at 18, citing *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1349 (Fed. Cir. 2015). However, the claims at issue here are analogous to those in *Enfish, LLC v. Microsoft Corp.*, which distinguished *Internet Patents*. The claims in *Enfish* were "directed to a specific improvement to computer functionality" in the fashion that the instant claims are directed to a specific improvement to network node admission, *i.e.,* communication probing to set transmission parameters on a coaxial

cable network. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1338 (Fed. Cir. 2016).

DISH also looks to the decision in *NetSoc, LLC v. Match Group, LLC* as addressing the "probing" and "adapting" limitations of the '566 Patent. ECF Dkt. No. 50-1 at 18. As explained above these, and other, limitations of the challenged claims in this case are directed to a technological advancement in network node admission. In contrast, in *NetSoc*:

> '[M]aintaining' a list of participants, 'presenting' a user with selectable categories, 'displaying' participant information based on the selected category, 'shielding' contact information, 'enabling' the user to send a message to participants, 'tracking' a response time of participants, and 'updating' participant ratings ***are all human activities*** that the claims more efficiently organize by applying them to a 'network computer system.'

NetSoc, LLC v. Match Group, LLC, 838 Fed. Appx. 544, 548 (Fed. Cir. 2020) (emphasis added).

NetSoc goes on to note that the specification of the patent at issue therein "discloses that, without the invention, a 'human resource department' can handle the 'entire arduous process of relocation.'" *Id.* at 549. There is no corresponding teaching in the '566 Patent that network node admission was ever, or ever could be, a human activity. In fact, when one looks at the invention depicted in Figure 3 of the '566 Patent, and as described therein (*see* '566 Patent, col. 8, lines 15-18 & 37-57; and Figure 3), not even DISH can allege that the invention of the '566 Patent comprises the simple computerization of human activity. *See* ECF Dkt. No. 50-1 at 13-19. Thus, *NetSoc* is inapposite.

Next, DISH cites *Apple, Inc. v. Ameranth, Inc.*, the claims of which lacked a "particular way of programming or designing the software . . . but instead merely claim[s] the resulting systems." ECF Dkt. No. 50-1 at 16, quoting *Apple, Inc. v.*

Ameranth, Inc., 842 F.3d 1229, 1241 (Fed. Cir. 2016). This Court distinguished *Apple* where the subject claims were directed to "improving a user's viewing experience." *Maxell, Ltd. v. Fandango Media, LLC*, No. 17-cv-07534, 2018 WL 5085141 at *6 (C.D. Cal. March 21, 2018). As in *Maxell*, the claims of the '566 Patent are directed to enhancing the experience of a coaxial cable network user by allowing for the direct communication between diverse devices that are connected to such network. '566 Patent, col. 6, lines 1-16.

In short, the case law cited by DISH is consistently inapposite, as the claims at issue therein are not analogous to the claims of the '566 Patent. The claims of the '566 Patent address the manner of new node admission to a coaxial cable network that allows nodes in that network, including the newly admitted ones, to communicate directly with one another in an optimized fashion through the use of adaptive transmission parameters. This is more than enough to satisfy both *Alice* steps. At the very least, DISH has failed to provide evidence to the contrary, and the motion as to the '566 Patent must fail.

b. DISH Has Failed To Prove The Claims Of The '910 Patent Are Unpatentable

(1) *Alice* Step One

As with the '566 Patent, there are claim construction issues regarding the claims of the '910 Patent ("packet aggregation module" and "aggregate packet") that make ruling on Section 101 patentability inappropriate at this point. *Bancorp Servs.*, 687 F.3d at 1273-74. Further, even more so than with the '566 Patent, DISH oversimplifies the claims of the '910 Patent in concocting the supposed abstract idea of "receiving, aggregating, and transmitting data." *See* ECF Dkt. No. 50-1 at 19. And, as with the '566 Patent, DISH cites a number of cases that only bear relevance to the instant case presupposing that DISH's oversimplification of the claims is correct, which it is not. DISH entirely ignores the packet aggregation module and aggregate packet limitations in its summary. This is especially problematic, as the

Federal Circuit has ruled that data structure yielding "important technological consequences" is not an abstract idea. *ADASA Inc. v. Avery Dennison Corp.*, 55 F.4th 900, 908-09 (Fed. Cir. 2022).

Specifically, the claim at issue in *ADASA* focused on data structure of an RFID serial number space, including a serial number selected from an allocated block with: 1) a limited number of most significant bits ("MSBs") at the leading end of the serial number; and 2) remaining bits of lesser significance. *Id.* at 908. As such, the claimed MSBs function as an additional data field within the serial number space that uniquely identifies the allocated block from which it came. *Id.* The Federal Circuit held that the claim at issue was "directed to a specific, hardware-based RFID serial number data structure designed ***to enable technological improvements to the commissioning process***." *Id.* at 909 (emphasis added).

Similar to the claims in *ADASA,* as noted above, the claimed packet aggregation module, and aggregate packets with their resulting data structure, reduce the overhead on a coaxial cable network, thereby improving such network's performance. *See* § II(C)(2), *supra*. Under the court's reasoning in *ADASA*, the claims of the '910 Patent represent technological improvements, rather than mere abstract ideas.

DISH, for its part, first cites *Two-Way Media Ltd. v. Comcast Cable Communications, LLC* in which the subject claim recited a method for routing information using result-based functional language such as "converting," "routing," "controlling," "monitoring," and "accumulating records," which the court found "does not sufficiently describe how to achieve these results in a non-abstract way." *Two-Way Media Ltd. v. Comcast Cable Communications, LLC*, 874 F.3d 1329, 1337 (Fed. Cir. 2017). Unlike the claim in that case, the claims of the '910 Patent specify the manner in which network overhead is reduced through the use of packet aggregation by a packet aggregation module, *i.e.*, the "how" that the court found missing in *Two-Way Media*.

In *Metone Solutions LLC v. Digi Int'l Inc.,* the Federal Circuit distinguished *Two-Way Media* as the claims in *Metone* were directed to "shifted USF, which breaks the fixed relationship between USFs in a downlink slot and the availability for transmission in the corresponding uplink slot." *Metone Sols. LLC v. Digi Int'l Inc.,* App. Nos. 2021-1202 & -1203, 2021 WL 5291802 at *5 (Fed. Cir. Nov. 15, 2021). As with the claims in the '910 Patent, the claims in *Metone* included the "how" that was found missing in *Two-Way Media.*

In *RecogniCorp, LLC v. Nintendo Co., Ltd.*, the Federal Circuit found that the claims at issue were "directed to the abstract idea of encoding and decoding image data," as "a user displays images on a first display, assigns image codes to the images through an interface using a mathematical formula, and then reproduces the image based on the codes," which "comprised ***standard*** encoding and decoding." *RecogniCorp, LLC v. Nintendo Co., Ltd.*, 855 F.3d 1322, 1326 (Fed. Cir. 2017) (emphasis added). DISH presents no evidence that the claimed packet aggregation module and packet aggregation in the '910 Patent are standard. Rather, DISH characterizes the patent as teaching that such aggregation "'can be performed by hardware, or any combination of hardware and software,' ***including a generic processor and memory***." ECF Dkt. No. 50-1 at 21 (emphasis added). To begin with, the word "generic" appears nowhere in the '910 Patent. That patent also says "[t]he functionality of these modules [including the packet aggregation module], although shown as software in FIG. 2, can be implemented by any combination of hardware or software in other embodiments," *i.e.*, the packet aggregation module can be either hardware, or software, or a combination of both. *See* '910 Patent, col. 3, lines 32-35. There is, however, no teaching in the patent that the aggregation module is somehow generic or conventional.

This Court had occasion to consider and distinguish the *RecogniCorp* decision in *California Institute of Technology v. Broadcom Ltd.* There, the claims were "'directed to' a method for encoding data that . . . improves on previous data encoding

methods by allowing for more efficient data transmission." *California Institute of Technology v. Broadcom Ltd.*, No. 16-cv-3714, 2019 WL 11828211 at *15 (C.D. Cal. Jan. 18, 2019). This was contrary to "[t]he claims of *Recognicorp* [that] did not relate to a specific method of encoding." *Id.* at *18. Here, data packet aggregation performed by the packet aggregation module is set forth in the claims of the '910 Patent, as explained above.

Next, DISH cites to *Intell. Ventures I LLC v. Symantec Corp.* for the proposition that the claims of the '910 Patent are analogous to "mail delivery through a post office." ECF Dkt. No. 50-1 at 21, citing *Intell. Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1317 (Fed. Cir. 2016). Specifically, in that case, the Federal Circuit cited with approval the "district court's analogy to a corporate mailroom," which "take[s] certain actions based on the application of business rules," including "gating the message for further review . . . and also releasing, deleting, returning, or forwarding the message." *Intell. Ventures*, 838 F.3d at 1317. The claims in that case, however, did not specify any particular business rule, which is contrasted with the claims of the '910 Patent, which provides specifically for aggregating packets by the packet aggregation module when multiple PDUs are destined for the same location.

The '910 Patent claims are actually analogous to those at issue in *TecSec, Inc. v. Adobe, Inc.*, which distinguished *Intell. Ventures*. *TecSec, Inc. v. Adobe, Inc.*, 978 F.3d 1278, 1294 (Fed. Cir. 2020). According to the court in *TecSec*, the claims in *Intell. Ventures* were not directed to "'a new method of virus screening or improvements thereto' and merely claimed use of conventional virus-screening software to carry out the abstract virus-screening idea." *Id.* In contrast, the claims in *TecSec* included "'object-oriented key manager' and specified uses of a 'label' as well as encryption for the access management," *i.e.*, not generic security. *Id.* at 1295. This is analogous to the detail regarding the use of the packet aggregation module to aggregate packets of PDUs in the claims of the '910 Patent.

(2) *Alice* Step Two

As explained above, there is an issue of fact as to whether the "packet aggregation module" and "aggregate packet" limitations of the '910 Patent are unconventional, warranting denial of the instant motion. *Berkheimer*, 881 F.3d at 1368. DISH limits its discussion to claim 3 of the '910 Patent, which it characterizes as "representative" of the other two claims in that patent. ECF Dkt. No. 50-1 at 22. DISH again invokes the decisions in *Two-Way Media* and *Intell. Ventures* as evidence that the limitations of claim 3 are "conventional." *See* ECF Dkt. No. 50-1 at 23. As noted above with regard to *Alice* step one, however, the claims at issue in those decisions are inapposite to the claims of the '910 Patent. Otherwise, DISH offers no evidence that the packet aggregation module and aggregated packets are conventional.

This is especially problematic as the specification of the '910 Patent makes clear that such aggregation reduces network overhead "by eliminating interframe gaps, preamble information, and extra headers" in the aggregate packets. '910 Patent, col. 2, lines 1-3. This improved "aggregate packet," created by the claimed "packet aggregation module," is illustrated schematically and textually. Figure 3, shows individual PDUs as they would be carried in separate packets, each with their individual preambles, headers, and payloads (*see also, id.*, col. 3, line 42 – col. 4, line 4). In contrast, the claimed invention is represented by Figure 4, depicting the claimed "aggregate packet," with a single preamble, MAC Header, Aggregation Header (green) and a consolidated payload (purple) (*see also id.*, col. 4, line 6 – col. 5, line 36):

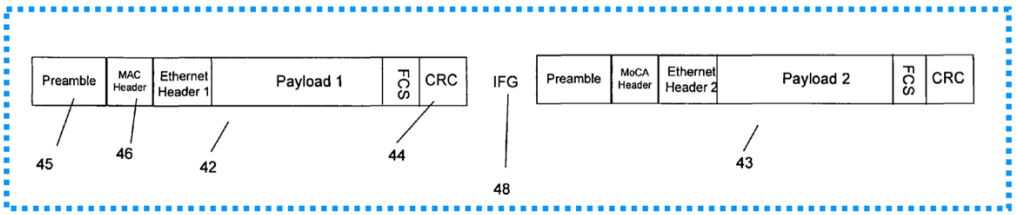


Fig. 3

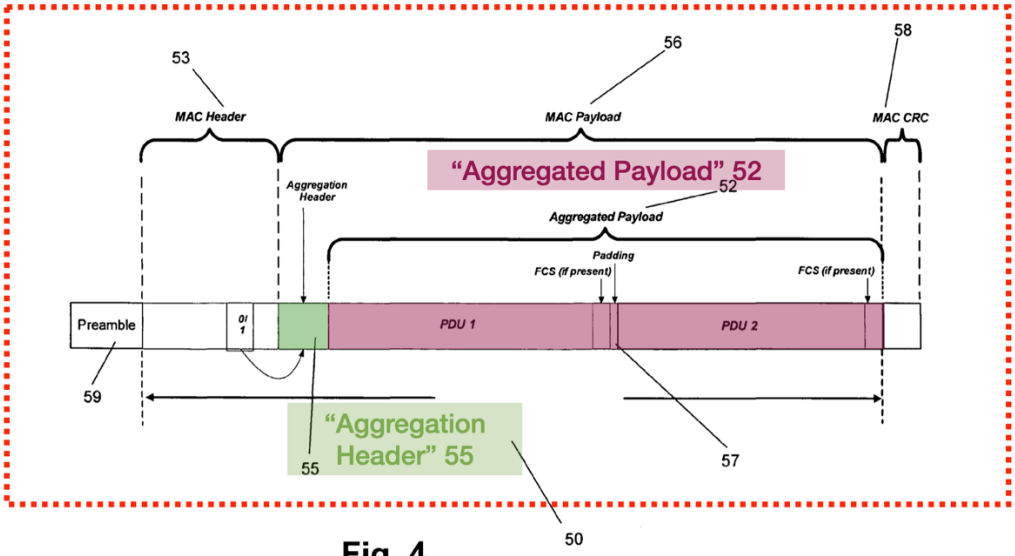


Fig. 4

Two individual MoCA packets

Aggregate Packet

'910 Patent, Figure 3 (relevant part, compressed for size) and Figure 4 (both annotated).

Entropic also notes that the motion must be automatically denied because DISH failed entirely to address claims 1 and 2 of the '910 Patent. While DISH asserts that claim 3 is representative of all three claims of the Patent, a side-by-side comparison of the three claims of the '910 Patent shows that this is not the case:

'910 Patent Claim 1	'910 Patent Claim 2	'910 Patent Claim 3
A method of transmitting digital data over a network comprising:	A non-transitory computer readable media having instructions stored thereon	A system for transmitting digital data

receiving a plurality of packet data units; identifying at least two of the plurality of packet data units that have a same aggregation identifier; forming an aggregate packet from the at least two of the plurality of packet data units; and transmitting the aggregate packet to at least one destination node; wherein the aggregate packet comprises an aggregation header that comprises a number of packet data units in the aggregate packet, further comprising:	that, when executed by a processor, causes the processor to transmit digital data over a network, the processor comprising: receiving a plurality of packet data units; identifying at least two of the plurality of packet data units that have a same aggregation identifier; forming an aggregate packet from the at least two of the plurality of packet data units; transmitting the aggregate packet to at least one destination node wherein the aggregate packet comprises an aggregation header that comprises a number of	over a network comprising: a transceiver adapted to receive a plurality of packet data units; and a packet aggregation module for identifying at least two of the plurality of packet data units that have a same destination node and for forming an aggregate packet from the at least two of the plurality of packet data units; wherein the transceiver is adapted to transmit the aggregate packet to at least one destination node; and wherein the packet aggregation module identifies the same

determining the presence of a checksum bit in a media access control header; calculating a first checksum for the aggregation header; comparing the first checksum to a second checksum that is received in the aggregation header of the aggregate packet; receiving the aggregate packet, wherein the aggregate packet comprises the media access control header; determining the presence of an original frame check sequence bit in the media access control header; and passing the at least two of the plurality of packet data	packet data units in the aggregate packet; receiving the aggregate packet, wherein the aggregate packet comprises a media access control header; determining the presence of a checksum bit in the media access control header; calculating a first checksum for the aggregation header; comparing the first checksum to a second checksum that is received in the aggregation header of the aggregate packet; receiving the aggregate packet, wherein the aggregate packet comprises a media access control header;	destination node by identifying a same aggregation identifier..

units to a device without modifying frame check sequences if the second checksum is found to be correct.	determining the presence of an original frame check sequence bit in the media access control header; and passing the at least two of the plurality of packet data units to a device without modifying frame check sequences if the second checksum is found to be correct.	

DISH's failure to address claims 1 and 2 of the '910 Patent, which contain a variety of different recited elements, is fatal to, at least, any challenge to these claims.

In summary, the specific data structural requirements of all three claims of the '910 Patent are more than sufficient to meet the "unconventional" prong of *Alice*, again most easily visualized by reference to Figure 4's "aggregate packet" and its contrast of non-aggregated packets in Figure 3. The motion should be denied as to all three claims of that patent for the reasons stated above.

III. CONCLUSION

For the foregoing reasons, the instant motion should be denied in its entirety.

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CERTIFICATE OF COMPLIANCE

The undersigned, counsel of record for Plaintiff, Entropic Communications, LLC, certifies that this brief contains 6,554 words, which complies with the word limit of L.R. 11-6.1.

/s/ Christina Goodrich
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